

IX.—On some Trapdoor Spiders of the Family Ctenizidæ from South and West Australia, contained in the Collection of the British Museum. By R. I. Pocock.

THE four genera discussed in this paper, all belonging, as I believe, to the Cyrtauchenieæ, form an interesting series wherein the arrangement of the eyes passes from that of *Aganippe*, which is but a slight exaggeration of the pattern observable in *Cyrtauchenius*, to that of *Idiosoma*, which, as implied by the name, is comparable to the formula found in *Idiops* and its allies. The gradual assumption, too, of the integumental characters of the abdomen is clearly indicated, the normal hairy clothing of *Aganippe* passing into the aberrant spinous covering of *Idiosoma* through the form called *Anidiops*, where the hairs are dorsally intermixed with strong spines.

Genus IDIOSOMA, Ausserer.

Idiosoma, Ausserer, Verh. z.-b. Wien, 1871, p. 150.

Belonging to the group Cyrtauchenieæ of the family Ctenizidæ, but characterized by the arrangement of the eyes, which much resembles that of *Idiops*, and by the coriaceous spinous wrinkled cuticle of the posteriorly truncate abdomen, which approaches that of *Cyclocosmia* and *Chorizops*.

Type *I. sigillatum* (Cambr.).

This genus, established by Ausserer for the reception of the peculiar species named *Idiops sigillatus* by O. P. Cambridge, was, by Mons. Simon, regarded as a synonym of *Acanthodon* (Hist. Nat. Araignées, p. 91, 1892). The antagonistic opinions of these authors were based upon the characters presented by the type specimen, which belongs to the male sex; and it may be inferred that whereas Ausserer regarded them as of generic value, to Simon they were merely of sexual importance. The discovery, however, that the female differs greatly from the female of the *Idiopeæ* in the scopulation and spine-armature of its legs, as well as in the form of the labium, abdomen, &c., is sufficient justification for the re-establishment of Ausserer's genus.

Idiosoma sigillatum (Cambr.).

Idiops sigillatus, Cambridge, Proc. Zool. Soc. 1870, p. 105, pl. viii fig. 2.

♀.—*Colour*. Cephalothorax and limbs uniform chestnut, cephalic region of the former paler; abdomen dirty yellow, tinted with black, with a fine yellow longitudinal dorsal band.

Carapace longer than wide, its width just about equal to the distance between the posterior border and the posterior row of eyes; fovea deep, lightly procurved, radiating grooves strongish; cephalic area moderately elevated.

Eyes arranged as in the *Idiopeæ*, the anterior laterals occupying an isolated position close to each other on each side of the middle of the anterior border, separated by a space that about equals their own radius, and tilted up posteriorly, so as to look forwards and upwards; the rest of the eyes occupying a wide transverse elevated area some distance behind; the anterior medians a little smaller than the front (anterior lateral) pair, separated from each other by a distance equal to about half their diameter, and from the front pair, as well as from the posterior laterals, by a space almost or quite equal to twice their diameter; the posterior laterals elliptical, nearly twice as large as the anterior medians; the posterior medians the smallest, a little less than half the size of the anterior medians, from which they are separated by a space which about equals their diameter, widely separated from each other, the space between them being about twice the space between them and the posterior laterals, the last-named space being about equal to the long diameter of a posterior lateral eye.

Mandibles of medium strength, not geniculate, mostly smooth above at the base, hairy in front, armed with a distinct rake consisting of about a dozen pointed black tubercles lying along the inner edge of the segment and occupying a small prominence above the base of the fang; external surface of mandible not hairy, lightly wrinkled; the lower edge furnished with a fringe of hairs externally and with two rows of teeth, the outer consisting of four and the inner of seven (eight), with a few between them posteriorly; fang shortish, stout.

Labium small, wider than long, bent downwards, and separated from the sternum by a deep groove, deeply sunk between the *maxillæ*, unarmed.

Sternum much longer than wide, widest between the *coxæ* of the third legs, marked with the normal three pairs of muscular scars (*sigillæ*), those corresponding to the first legs small, marginal; the following pair also small and submarginal, the posterior pair small and oval, well removed from the margin, their distance from the margin being about half the distance between the two.

Abdomen ovate, its upper surface in its posterior half flattened from side to side, and furnished with three pairs of muscular scars or *sigillæ*—the anterior pair faint and widely

separated, the middle pair large, conspicuous, and lodged in a transverse depression of the integument; the posterior pair closer together than the others, smaller than the median but more conspicuous than the anterior; the integument coriaceous, longitudinally grooved in front, transversely behind and below, scantily hairy; the upper surface of the abdomen armed with short backwardly directed spines, elevated on distinct granuliform tubercles.

Spinners. Two pairs, the anterior short, conical, the posterior also conical; the apical segment minute, the second shorter than the basal.

Palpi. Maxilla longer than wide, furnished below with setæ, intermixed with short setiform spinules, the base armed internally with a cluster of the thick normal spiniform tubercles; surface between the fringe and the suture bristly; trochanter, femur, and patella bristly below; the tibia also bristly, about four of the bristles on each side stout and spiniform; tarsus about as long as the tibia, somewhat thickly scopulate on each side, nearly naked below, armed with two pairs of basal spines, apically with about five shorter spines in the middle; claw armed with two basal teeth, the lower long and bifid.

Legs. First and second pair with tarsi and protarsi scopulate externally and internally, weakly spined; tibia of first armed externally with 3 to 5 spines, and with 1 internally at the apex; protarsus with 4 externally, 2 internally, and 1 mesially, 4 altogether being placed along the lower apical margin; tarsus only spined apically below the claw, as in the palpus; second leg spined like the first, except that there are a few more spines on the protarsus; third leg with femur sparsely hairy, patella and tibia coarsely bristly above, the former armed in front with a few (about 9) short spines, the latter with 2 short spines in front and some half-dozen long spiniform setæ below; protarsus sparsely bristly, armed above with two rows of 5 to 6 stout spines and below with about 8 spines somewhat irregularly arranged; about 9 spines altogether arranged round the distal margin of this segment; tarsus armed with about a dozen spines below; fourth leg with femur sparsely hairy, a few stout bristles below, thickly studded with short bristles at the apex above; patella furnished above with short bristles; tibia armed below with 8 setiform spines arranged in two rows; protarsus with about 12 spines below, 2 above; tarsus armed with about a dozen spines below; *claws* of legs with a few teeth, 2, 3, or 4, two long and strong, the others small and sometimes absent.

Measurements in millimetres.—Total length (including mandibles) 20; length of carapace 7, width 5; length of

abdomen 10·5, width 8·5; length of first leg (from base of femur) 15, of second 13, of third 12·5, of fourth 16, of palp 12; width of mandibles at base 4·5; length of sternum 5, width 3.

Loc. Perth, W. Australia (*H. W. J. Turner*). Mr. Cambridge's specimen was from the Swan River (Perth).

In spite of the fact that its eyes are arranged as in Simon's group *Idiopeæ* of the subfamily *Ctenizinae*, this genus is without doubt to be referred, not to that section, but to the *Cyrtachenieæ*, as its scopulate and weakly spined tarsi and protarsi indicate. From all the genera of *Cyrtachenieæ*, however, it may be recognized by the arrangement of its eyes, as well as by the posteriorly truncate, hardish, wrinkled-skinned abdomen—a feature in which it presents resemblances to *Chorizops* and *Cyclocosmia*, both of which, however, present an entirely different eye-formula.

Genus AGANIPPE, Cambr.

Aganippe, Cambridge, *Ann. & Mag. Nat. Hist.* (4) xix. p. 28 (1877); Simon, *Hist. Nat. Araignées*, i. p. 103; Pocock, *Ann. & Mag. Nat. Hist.* (6) xvi. p. 223 (1895).

Type *Aganippe subtristis*, Cambr. *ibid.* pl. vi. fig. 3.

In spite of the differences observable between them in the arrangement of the eyes and the structure of the abdomen, the genera *Aganippe* and *Idiosoma* cannot, I think, be far separated in a natural classification of spiders.

Apart from the two characters just mentioned, the principal differences between them seem to be as follows:—

The scopulæ on the palpi and on the first and second legs are thicker, and these appendages are armed with fewer spines; for example, the tibia of the palp has two pairs at its apex and the tarsus one externally at the base; the tibia of the first leg is practically without spines, though some of the setæ are thickened; on the protarsus there are 2 or 3 apical spines and 1 external basal spine; on the second leg there are also a few spiniform setæ intermixed with the bristles on the tibia, while on the protarsus there are 4 apical spines and about 3 long spines on the inner surface; the tibiæ of the third and fourth legs are at most weakly spined below, while the protarsi are somewhat strongly spined both below and in front, while the tibia and protarsus of the third are also spined above posteriorly; the tarsi of all the legs are spiny below, those of the first, second, and third at the tip, of the fourth posteriorly as well. The third and fourth legs are noticeably stouter than the first and second, the difference being much greater than in *Idiosoma*.

The labium seems to be substantially the same as in *Idiosoma*, being merely setose not spiny and sunk between the maxillæ, which are spiny anteriorly throughout their length; the sternum, too, is wider posteriorly, the width being 5·5 and the length 6·5; and the sigilla corresponding to the second leg is removed farther from the margin.

The mandible armed below with 9 internal, 8 external, and 8 teeth forming an intermediate set; the tubercular teeth forming the rastellum are restricted to the process and to a short area on the margins above and external to it.

Loc. Adelaide (S. Australia).

EUCYRTOPS, gen. nov.

Closely allied to *Aganippe*, but with different ocular arrangement, the anterior laterals closer together, so that the quadrangle formed by them and the posterior medians is a little wider behind than in front, and only a little wider than long, whereas in *Aganippe* this quadrangle is very noticeably wider than long, and, considered from the outer rim of the eyes, a little wider in front than behind; again, the posterior line of eyes in *Eucyrtops* is about three times as wide as the anterior line (only about twice in *Aganippe*), and a line drawn through the centres of the anterior and posterior laterals will, if produced, cut the lateral margin of the carapace at a point in front of the articulation of the third leg, while in *Aganippe* such a line will emerge behind the articulation of this appendage.

Type *Eucyrtops latior* (Cambr.).

Eucyrtops latior (Cambridge).

Aganippe latior, Cambridge, Ann. & Mag. Nat. Hist. (4) xix. p. 29, pl. vi. fig. 4 (1877).

In this species the lower side of the tibia of the palp is furnished externally and internally with long spines, those at the distal extremity being stronger than the rest, and the tarsus has 3 spines in its basal half and others at the apex partially buried in the scopula; the protarsus of the first leg has two pairs of spines, while the tibia has 3 long apical spines and 1 farther back on its lower side; on the second leg the tibia has a pair of long apical spines below and some long slender ones behind, the protarsus an anterior pair and some half-dozen irregularly arranged posterior spines; on the third leg the patella has some half-dozen, and the tibia two spines in front, while the protarsus has two series of spines above and a few apical and one posterior

spine below; on the fourth leg the protarsus is armed with some half-dozen antero-inferior spines. The tarsi of both palpi and legs are apically spined below, the spines increasing in number with the disappearance of the scopula, so that on the fourth tarsus the distal half of the segment is spinous; the upper claws on the legs and palpi are armed with one long spine, with usually a minute spinule as well, rarely there are two longish spines.

The sternum and labium are as in *Aganippe subtristis*; the maxillæ are spinous at the base and the mandible is armed below with 7 (8) internal, 9 external teeth, and an intermediate line of 10 teeth; the tubercular teeth of the rastellum practically as in *Aganippe subtristis*.

Loc. Perth, West Australia (*George Clifton*).

ANIDIOPS, gen. nov.

Closely allied to *Idiosoma* in the majority of its characters, but differing in having the abdomen covered above and below with a clothing of longish hairs intermixed above with spines, and in the arrangement of the eyes, the formula of which is a little less like that of *Idiops*. For example, the anterior lateral eyes (the front pair), although situated on the anterior margin of the carapace, are nevertheless separated by a space which is about equal to their diameter; again, the distance between the anterior medians is at least equal to their diameter, and the posterior medians are about twice their diameter from the anterior medians.

Anidiops Manstridgei, sp. n.

Colour (dry specimen) chestnut-brown, mandibles and ocular area blacker.

Carapace much longer than wide, its width (dry specimen!) much less than the distance between the hinder border and the eye-cluster; head wide, its width about equalling the distance between the fovea and the anterior border, as in *Eucyrtops latior* (in *Aganippe subtristis* and *Idiosoma sigilatum* the head is considerably narrower than this distance).

Mandible strong, broad at the base; rastellum as in the other genera; teeth below in three rows, 8, 9, 8. *Maxillæ*, *coxae* of legs (especially of first and second pairs), anterior part of sternum, and labium covered thickly with pores elevated on tubercles, indicating the presence of a clothing, unhappily rubbed off, of stout setæ or, perhaps, spines. *Maxilla* armed with short spines along the whole of the inner surface; femur of palp with many stout setæ; tibia externally with 4

long spines, internally with 7 intermixed with setæ; tarsus with 3 basal and several apical spines.

First *leg* with tibia armed externally with a few spiniform setæ; protarsus armed below with 4 apical and 4 external spines; second leg with substantially the same spine-armature as the first; third leg as in the other species, tibia and patella furnished with stout setæ above intermixed with spines in front, protarsus with two series of spines above and a few apical spines below, tarsus spiny in front and below; fourth leg with a few spines amongst the setæ at the apex in front, protarsus and tarsus spiny throughout their length below. *Legs* bent up and not accurately measurable; the third and fourth stouter than the others, 4, 1, 2, and 3 apparently subequal in length.

Measurement in millimetres.—Total length (including mandible) 21; length of carapace 9, width 6·5, width of head 6, of mandibles at base 5·5.

Loc. Lawlers, East Murchison Goldfields, West Australia. A single female example sent to the British Museum by Mr. W. O. Manstridge, after whom I have great pleasure in naming this interesting new form.

To recapitulate: the females of the genera here considered have the following characters in common:—The *carapace* is considerably longer than wide, nearly smooth, with procurved fovea and elevated head. The anterior lateral eyes are well in advance of the others and are situated either close together or some distance apart upon the anterior border of the carapace; the *mandibles* are armed with a strong rastellum, consisting of strong short spines and a spinous process on the apical internal angle, and below with two rows of larger teeth as well as some smaller ones that constitute a shorter third intermediate row.

The tarsus of the *palpi* and the tarsi and protarsi of the first and second *legs* are scopulate and weakly spined, there being no lateral rows of spines such as are characteristic of the *Idiopeæ* and *Pachylomercæ*. The claws of all the legs are armed basally with one or two long teeth and one or two minute ones.

The *sternum* is longer than wide, with three distinct pairs of sigillæ, excluding the pair that embraces the labium. *Labium* short and broad, not spinous, depressed between the maxillæ.

The genera, each of which, so far as at present known, has but a single species, may be recognized by the following table:—

- a.* Integument of abdomen coriaceous, wrinkled, sparsely hairy, covered dorsally with short spines, and deeply impressed posteriorly with sigillæ. Eyes like those of *Idiops*, the anterior laterals separated by a space that is less than their diameter *Idiosoma*, Auss.
- b.* Integument of abdomen covered with longish hairs, with sigillæ inconspicuous.
- a'.* Eyes of posterior row procurved, the laterals in advance of the medians; the distance between the anterior laterals and anterior medians not very unequal; long spines intermixed with the hairs on the dorsal side of the abdomen *Anidiops*, nov.
- b'.* Eyes of posterior line recurved, the laterals behind the medians; distance between anterior laterals far greater than distance between anterior medians.
- a².* Quadrangle formed by anterior laterals and posterior medians a little wider behind than in front and a little wider than long; posterior line of eyes about three times as wide as the anterior line *Eucyrtops*, nov.
- b².* Quadrangle formed by anterior laterals and posterior medians a little wider in front than behind and considerably wider than long; posterior line of eyes about twice as wide as the anterior line *Aganippe*, Cambr.

X.—*Descriptions of Two new Species of Scorpions from East Africa.* By R. I. Pocock.

AMONGST a small assortment of Arachnids from Kota Kota, west coast of Nyasa, recently brought to the British Museum by Mr. R. Webb, and collected by the members of the Universities' Mission, there are representatives of two new species of scorpions, which are here described. The remaining specimens seem to be referable to the following species:—*Nephila malabarensis*, Walck., *Nephila hymenæa*, Gerst., *Palystes* (immature ♀), *Euprosthénops* * (immature ♀), *Solpuga paludicola*, Poc., and *Opisthophthalmus glabrifrons*, Pet.

Opisthacanthus rugiceps, sp. n.

Species with the legs and vesicle ochre-yellow, and falling under section *b²* of the table of South-African species of *Opisthacanthus* published in the Ann. & Mag. Nat. Hist. (6)

* Nom. nov. for *Podophthalma*, Capello, 1866, preoccupied at least twice over.